

New World Records Set with the STAC-M3 Benchmark Result on the ThinkSystem SR950

Performance Benchmark Result

The Lenovo ThinkSystem SR950 has set 11 new performance world records with the "big memory" Shasta suite of the STAC-M3 benchmark. The STAC-M3 Benchmark suite is the industry standard for testing solutions that enable high-speed analytics on time series data, such as tick-by-tick market data, also known as tick database stacks.

These new benchmark results are published on July 11, 2017 in a new STAC Report, [SUT ID KDB170629](#). The results demonstrate that the SR950 continues Lenovo's leadership with world record breaking performance for the financial services industry.

The previous STAC-M3 Shasta suite record holder was the Lenovo x3850 X6 with four Intel Xeon E7-8890 v4 and 6TB of DRAM ([SUT ID KDB160425](#)). Comparing the mean response times, the ThinkSystem SR950 server has set new records in 9 of 15 required benchmark categories and 2 optional benchmark categories.



The required mean response-time benchmark category world records are:

- STAC-M3.β1.1T.WKHIBID/s.TIME
- STAC-M3.β1.1T.MOHIBID/s.TIME
- STAC-M3.β1.1T.QTRHIBID/s.TIME
- STAC-M3.β1.1T.YRHIBID/s.TIME
- STAC-M3.β1.1T.YRHIBID-2/s.TIME
- STAC-M3.β1.10T.MKTSNAP/s.TIME
- STAC-M3.β1.10T.STATS-AGG/s.TIME
- STAC-M3.β1.10T.THEOPL/s.TIME
- STAC-M3.β1.100T.VWAB-12D-NO/s.TIME

The optional mean response-time benchmark category world records are:

- STAC-M3.β1.1T.NBBO/s.TIME
- STAC-M3.β1.1T.WRITE/s.TIME

The SR950 was configured as follows for the benchmark audit:

- Lenovo ThinkSystem SR950
- 4x Intel Xeon Platinum 8180 Processors (28 cores, 2.5 GHz, 38.5 MB last level cache)
- 3TB memory (48x 64 GB LRDIMMs @ 2666 MHz)
- 6x Intel P4600 1.6TB NVMe drives
- Red Hat Enterprise Linux 7.3 Maipo kernel 3.10.0-514.el7.x86_64
- Kx Systems kdb+ 3.4

About the ThinkSystem SR950

Lenovo ThinkSystem SR950 is designed for your most demanding, mission-critical workloads, such as in-memory databases, large transactional databases, batch and real-time analytics, ERP, CRM, and virtualized server workloads.

The powerful 4U ThinkSystem SR950 can grow from two to eight Intel Xeon Scalable Family processors, and with 96 DIMM sockets, supports up to 12 TB of high-speed memory without having to replace the server enclosure or upgrade to a physically larger design. The modular design of SR950 speeds upgrades and servicing with easy front or rear access to all major subsystems to maximize server availability.

The SR950 packs numerous fault-tolerant and high-availability features into a high-density design. The SR950 offers enterprise scalability and advanced RAS features to support the most demanding mission-critical applications that require 24x7 operations. The new 4U rack optimized design reduces the space needed to support massive network computing operations and simplifies servicing.

Lenovo XClarity Controller is an all-new hardware embedded management engine common in every ThinkSystem server. XClarity Controller features an uncluttered graphical user interface, industry standard Redfish-compliant REST APIs, and enables booting in half the time of prior generation servers, with up to 6x faster firmware updates.

Lenovo XClarity Administrator is a virtualized application that centrally manages ThinkSystem servers, storage, and networking. Via reusable patterns and policies, it ramps up and scales infrastructure provisioning and maintenance. It serves as a central integration point to extend your data center management processes to physical IT. Running XClarity Integrators in external IT applications, or integrating through REST APIs, helps you further speed services provisioning, streamline IT management, and contain costs.

About STAC

The Securities Analysis Technology Center (STAC) is a company that coordinates a community called the STAC Benchmark Council.

The STAC Benchmark Council consists of over 300 financial institutions and more than 50 vendor organizations whose purpose is to explore technical challenges and solutions in financial services and to develop technology benchmark standards that are useful to financial organizations.

User firms include the largest global banks, brokerage houses, exchanges, hedge funds, proprietary trading shops, and other market participants. Vendor firms include innovative manufacturers of processor, server, storage, and network hardware, as well as horizontal-market software providers and vertical specialists.

STAC-M3 benchmarks are governed by user firms in the STAC Benchmark Council. The STAC-M3 benchmark report for the SR950 is publicly available.

Learn more

To learn more about solutions for the financial services industry, please contact your Lenovo Sales Representative.

To find out more about STAC, visit the [STAC Research web site](#).

To learn more about the Lenovo ThinkSystem SR950 server, visit the [SR950 product web page](#).

Related product families

Product families related to this document are the following:

- [4-Socket Rack Servers](#)
- [Mission Critical Servers](#)
- [STAC-M3 Benchmark Results](#)
- [ThinkSystem SR950 Server](#)

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